

Dr. ALEKHA KUMAR SUTAR

Lecturer

PG Department of Chemistry

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1. Professional Objective

Reaching great height in the field of **Chemical Sciences** and to transmit the theoretical knowledge derived out of study and research into the societal advantage and organizational goals through continued development of professional skills.

2. Qualifications Profile

Degree	Institution	Specialization	Year	Division / Grade/
B.Sc	Utkal University	Phy, Math, Chem(Hons)	1997	1 st Div. Hons. with Distinction
M.Sc	Utkal University	Chemistry (Adv. Inorganic Chemistry, Physical & Organic Chemistry)	2000	1 st Div.
Ph.D	Indian Institute of Technology, Roorkee	Inorganic and Polymer Chemistry	2008	

Title of the Ph.D Thesis: Synthesis of Polymer Anchored Metal Complexes and Evaluation of their Catalytic Activity

3. Professional Experience

Duration/ Position held	Institution	Nature of Work
Dec, 2009- till date Lecturer	Ravenshaw University	Teaching and Research
Aug, 2009 to Dec, 2009 Lecturer	KIIT University	-do-
Oct, 2008 to July, 2009 Post-doctoral Fellow	National Chung Hsing University, Taichung, TAIWAN	Research
July, 2008 to Oct, 2008 Lecturer	Thapar University, Patiala, Punjab	Teaching and Research
July, 2003 to July, 2007 Teaching Assistant Concurrently with Ph.D	IIT Roorkee	-do-
July, 2003 to April, 2008 JRF/SRF (MHRD)	IIT Roorkee	Research

4. Visits abroad: 1yr Post Doctoral Fellow, National Chung Hsing University, TAIWAN

5. Theses Supervised:

Ph.D: In progress-**01**, M.Phil: In Progress – **03**, M.Sc. Projects: **07**

6. Experience / Skills

- Skilled in the interpretation of spectroscopic data (NMR, IR, UV-Vis, Mass) for the characterization of unknown compounds
- **Instruments Handled:** Gel Permeation Chromatography, NMR, Thermo Gravimetric Analyzer; Scanning Electron Microscopy; GC-MS spectrophotometer; FT Infrared Spectroscopy; X-ray Diffractometer; UV-Vis Spectrophotometer; CHNS Analyzer; Soxlet Extractor; Rotary Evaporator, X-ray Analyzer, etc.
- **Process Design:** Developing most effective and economic methods, Establishing lab procedures
- **Computers:** Utilizing windows based PCs with various softwares: MS Office, Origin, Chemdraw, Corel Draw,

- **Administration:** NSS Programme officer, Deputy Coordinator for the Nurture Programme, Member of Discipline Committee, Preparing technical reports and Documents, Ordering lab equipments and supplies, etc.

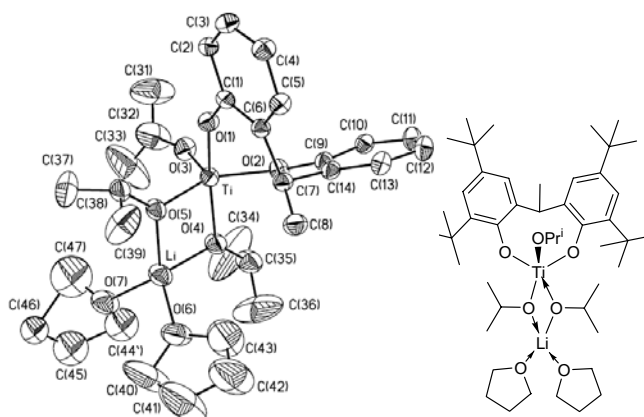
7. Research Interests

- The development of novel biocompatible and bioassimilable metal complexes for Ring Opening Polymerization (ROP) of cyclic esters,
- Design Metal-based compounds as mild and selective catalysts for organic transformations
- Polymers as intelligent and smart material.
- Design of polymer supports for catalysts.
- Kinetics and mechanism of homogeneous and heterogeneous catalysis
- Biodegradable polymers.

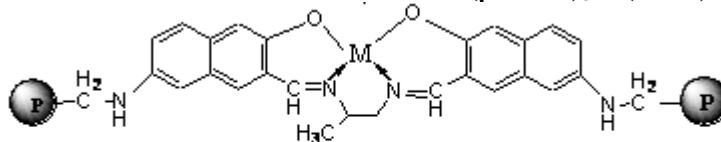
8. Significant Contribution through Research:

We are currently involved in synthesizing single metal / mixed metal alkoxide as initiator for OP of cyclic esters. We have also started to study catalytic studies of pure metal complexes as well as polymer supported metal complexes and have made considerable progress in optimizing the necessary conditions for the oxidation of phenol

Some recently Characterized model complexes



Molecular structure of $\text{EDBPTi}(\mu\text{-OPr})_3\text{Li}(\text{THF})_2$



M = Fe(II), Co(II), Cu(II), Ni(II) and Zn(II) ions

Polymer supported metal ion complexes

9. Affiliation to scientific society:

- Life Member of “Orissa Chemical Society”
- Annual Member of “Chemical Research Society of India”

10. Achievement

- Almost all the research papers are published in TOP 25 HOTTEST ARTICLES, among them the CCR paper is number one among the Top Hottest article
- Awarded **NSC Fellowship** for Post doctoral Research, 2008
- Qualified **CSIR-UGC NET LECTURESHIP** Dec 2006
- Awarded **MHRD Fellowship** for pursuing Ph.D, 2003.
- Qualified All India Graduate Aptitude Test in Engineering (**GATE**) 2003
- Honors in Bachelor of Science, 1997.

- Distinction in Bachelor of Science, 1997.

11. Personal Biodata

- **Permanent Address:** Dr. Alekha Kumar Sutar
Keutalaguan, Khanditar, Jajpur, orissa-755009, India.
- **Born on:** 18th JUNE 1978 **Marital Status:** Married
- **Language known:** English (R/W/S), Hindi (R/W/S), Oriya (R/W/S), Bengali (S)
Knowledge of foreign languages: Chinese

LIST OF PUBLICATIONS

1. **AK Sutar**, T Maharana, S Dutta, CT Chen and CC Lin (2010); *Ring-opening Polymerization by Lithium catalysts: An Overview*, Chemical Society Review. 39, 1724–1746 [Impact Factor- **17.4**]
2. **AK Sutar**, CC Lin and KC Gupta (2009); *Polymer supported Schiff base complexes in oxidation reactions*; Coordination Chemistry Review. 253, 1926–1946. [Impact Factor- **10.566**]
3. HY Chen, MY Liu, **AK Sutar** and CC Lin(2009); *Catalytic Ring-Opening Polymerization of L-Lactide using Mixed-metal Titanium Bisphenol-Alkoxide Initiators*, Inorganic Chemistry (In Press). [Impact factor- **4.147**]
4. **AK Sutar** and KC Gupta (2008), *Catalytic activities of Schiff base transition metal complexes*, Coordination Chemistry Review. 252(12-14) 1420-1450. [Impact Factor- **10.566**]
5. **AK Sutar** and KC Gupta (2008), *Catalytic activity of polymer anchored N, N'-bis (o-hydroxy acetophenone) ethylene diamine Schiff base complexes of Fe(III), Cu(II) and Zn(II) ions in oxidation of phenol*, Reactive & Functional Polymers; 68, 12-26.
6. **AK Sutar** and KC Gupta (2008), *Polymer supported catalysts for oxidation of phenol and cyclohexene using hydrogen peroxide as oxidant*, Journal of Molecular Catalysis A: Chemical. 280, 173-185.
7. **AK Sutar** and KC Gupta (2008), *Synthesis of Polymer supported Schiff base complexes and their catalytic activity in oxidation of phenol and cyclohexene*, Polymers for Advanced Technologies; 19(3) 186-200.
8. **AK Sutar** and KC Gupta (2008), *Synthesis of Polymer Supported Metal Ions Complexes and Evaluation of Their Catalytic Activities*, Journal of Applied Polymer Science; 108 (6) 3927-3941.
9. **AK Sutar** and KC Gupta (2007), *Polymer anchored Schiff base complexes of transition metal ions and their catalytic activities in oxidation of phenol*, Journal of Molecular Catalysis A: Chemical; 272,64-74.
10. **AK Sutar** and KC Gupta (2007), *Polymer supported Schiff base complexes of Iron(III), Cobalt(II) and Nickel(II) ions and their catalytic activity in oxidation of phenol and cyclohexene*, Journal of Macromolecular Science, Part A: Pure and Applied chemistry; 44, 1171-1185.

Book Chapter:

11. **AK Sutar**, CC Lin and T Maharana (2009); “Title: *Synthesis and characterization of block copolymer*” was accepted by NOVA publisher, USA and the book will be published in 2010.

Conferences / Symposia:

12. **AK Sutar**, T Maharana and S. K. Nayak (2010); *Oxidation of Phenol using Polymer Supported First Row Transition Metal Series Catalysts*, National Seminar on Materials Chemistry and Catalysis, April 3-4, 2010.
13. **AK Sutar** and T. Maharana (2009); *Polymer Supported Fe(III), Cu(II) and Zn(II) Catalysts for oxidation of Phenol*, National Symposium on Green Chemistry : Applications in Science & Engineering (NSGC-2009), Thapar University, Patiala (Punjab), 5-6 February 2009.
14. **AK Sutar** (2009); *Synthesis and Characterization of Polymer Supported Catalysts (P-M-HNPn) for oxidation of Phenol*, International Symposium on Polymer Science and Technology: Vision & Scenario, New delhi, India, December 17-20, 2009 (Accepted).
15. **AK Sutar** and KC Gupta (2007); *Synthesis of Polymer anchored Schiff base complexes of Fe(III), Co(II), Ni(II) ions and evaluation of their catalytic activity in oxidation of phenol*, National Seminar on Recent Trends in Syn. And Polymer Chemistry, Shimla, 23-24 March.